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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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November 14, 2000

Chuck Semborski, Environmental Supervisor
Energy West Mining Company
P.O. Box 310
Huntington UT 84528

Re: Findings for Volume 2 Part 4 of Reclamation Plan, PacifiCorp, Cottonwood/Wilberg Mine, C/015/019-AM00B-2, Outgoing File

Dear Mr. Semborski:

A review of the above-referenced amendment reveals that there are still deficiencies that must be adequately addressed prior to approval. A copy of our technical analysis is enclosed for your information. Please respond to these deficiencies by January 24, 2001.

Please extend a thank you to Dennis Oakley for his time and efforts toward correcting the inconsistencies found between the existing copies of the MRP.

If you have any questions, please call me at (801) 538-5258 or Priscilla Burton at (801) 538-5288.

Sincerely,

Susan M. White

Susan M.White
Acting Permit Supervisor

pwb/sm
Enclosure:
cc: Price Field Office
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State of Utah

Utah Oil Gas and Mining

Coal Regulatory Program

Cottonwood / Wilberg
Reclamation Plan
C/015/019-AM00B-2
Technical Analysis
November 1, 2000

TABLE OF CONTENTS

INTRODUCTION

Part 4 is the reclamation plan portion of the Mining and Reclamation Plan for the Cottonwood/Wilberg Mine. A reorganization of the text in Part 4 was submitted March 21, 2000. It utilized appendices for figures, tables and baseline survey information, but there was no change in the content of the text. Missing soil sampling information from page 21, Item #7 of Part 4 was promised by PacifiCorps this field season, but has not yet been received. After a sixty day extension, earthwork calculations were received on August 9th, 2000.

A second submittal from PacifiCorps included a revised Introduction, Table of Contents for the MRP, and Table of Contents for the Appendices volumes (dated 5/24/2000) to replace those found in the Introduction section of Volume 1 (dated 12/20/99 and approved under amendment AM00A) . The Table of Contents which accompanied the new Introduction conflicted with the information on file at the Division. Therefore, a meeting was arranged on August 4, 2000 to compare the MRP volume contents between the Price Field Office, the Salt Lake Office and Pacificorps Office. As a result of that meeting, all books are arranged in the same order, but the Salt Lake Office MRP is missing some maps. Those maps and another revision of the Table of Contents is requested by this review.

Earthwork calculations were received August 9th, 2000. The MRP was found to be lacking detailed cross sections. Therefore, the Division could not verify the adequacy of the backfilling and grading plan. The Division needs maps showing cross sections of the operation and reclamation landscape showing cut and fill quantities in order to verify that the reclamation plan meets the requirements of the coal rules; that the cut and fill quantities match; and that concrete structures left in place will be adequately backfilled.

Reclamation cost estimates were not considered adequate because of insufficient information with regard to disposal of noncoal waste, building debris, removal of the 69KV power line, the crane pad, concrete structures, and asphalt road rubble. Reclamation costs must include preparing the surface for topsoil placement/distribution, and earthwork calculations for the Proposed Cottonwood Fan Portal. Disposal costs were missing for rock dust storage tanks and fuel tanks, the substation, the diesel shop, covered parking, stacking tube, and the overland conveyor.

Demolition costs did not include the cost of equipment operator's wages. References for citations and explanations for choices of units and factors used in the demolition costs and references for material costs in vegetation and productivity calculations are required. Further information and productivity data on the reclamation of the new waste rock site, the sediment pond removal, the extension of the diversion ditch and culvert removal is requested.

The submittal of the Part 4 revision requires further refinement before being incorporated into the Mining and Reclamation Plan. This submittal was reviewed for formatting changes only. It should be reviewed by the reclamation staff for its content when the reorganization and reformatting has been completed.

SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the permittee and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns and deficiencies may also be found within the analysis and findings made in this Draft Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement action as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-300-143, Indicate the actual dates of soil testing in Part 4, page 21, item #7 and update Appendix D with soil testing analysis and interpretative information when it is received. 10

R645-301-121.100 AND R645-301-121.200, The above noted maps (Appendix III all 9 plates associated with the overland tube and Appendix XII map 3) along with a revised Table of Contents listing the contents of Volume 4; listing volume 7 as non-existant; listing Volumes 9A and 9B; and listing the Appendices will be resubmitted. 8

R645-301-121.200, The permittee must be clear and concise when explaining how and where building debris will be disposed. The permittee must be consistent about whether or not building debris will be disposed of on-site. The permittee must also be consistent about describing the off-site disposal facility. The Division does not consider a salvage facility to be the same as a landfill because a salvage facility does not charge for disposal while a landfill does. See the analysis section for details. 15

R645-301-122, The pemittee must be clear and concise when stating where asphalt debris will be disposed. The information on page 4-1 suggests that asphalt debris will be disposed. The information on page 4-1 suggests that asphalt will be disposed of off-site while the information on page 4-3 suggests the material will be disposed of on-site. 16

R645-301-542.200, the permittee must give the Division cross sections that show the operational and reclamation phases for the disturbed areas. Those cross sections must **(1)** be of a scale of 1" = 100' or smaller, **(2)** be on 100' intervals, **(3)** show the

location of all concrete structures that the permittee proposes to leave in place for final reclamation, **(4)** show the location of the highwalls and **(5)** list the cut and fill quantities. 11

R645-301-830.140 and R645-301.122, Provide information and productivity data for the following activities: **(1)** Reclamation of the new waste rock site, **(2)** Removal of the sediment pond, **(3)** Drainage work, extending the diversion ditch 230 feet, **(4)** Culvert removal, **(5)** The permittee did not include reclamation costs preparing the surface for topsoil placement and for topsoil distribution and **(6)** The permittee must include earthwork calculations for the Proposed Cottonwood Fan Portal. The Division has not yet approved Phase I bond release therefore the earthwork calculations must be included. 16

R645-301-830.140 and R645-301.122, Provide the following: **(1)** Why the permittee used bank cubic yards instead of loose cubic yards when calculating scrapper productivity. (Why a swell factor was not used when calculating volumes to be hauled.) and **(2)** For dozer productivity the permittee should state why they are using a material factor of 0.8, a weight correction factor of 0.9 and a slot dozing factor of 1.2. The slot dozing factor is generally used when the dozer is cutting a trench. 16

R645-301-830.140 and R645-301.122, The pemittee must show that they have landowner approval for on-site disposal of all noncoal waste including asphalt. The U.S.F.S. is the surface owner and they have informed the Division that asphalt debris cannot be disposed of on-site. If asphalt debris cannot be disposed of on-site then the permittee must develop an alternative disposal plan. 15

R645-301-830.140 and R645-301.122, The permittee must give the Division references for the productivity of the crews used in the calculation of the demolition work. 16

R645-301-830.140 and R645-301-542.200, The permittee must give the Division cross sections that show the cut and fill quantities. 16

R645-301-830.140, Provide references for material costs involved in vegetation and productivity calculations. 17

R645-301-830.140, Provide the Division with pavement dimensions (length, width and thicknesses) and a swell factor for calculating the volume of asphalt rubble. 16

R645-301-830.140, The permittee must give the Division detailed reclamation cost estimates for the following: **(1)** Removal of the 69 KV power line (1-H), **(2)** Reclamation of the crane pad (1-O), **(3)** the volume of all concrete structures that will be left in place during final reclamation, **(4)** the volumes for all structures that are to be demolished and an estimate of the debris volume. The Structures that do not have volumes listed include but not limited to the conveyors, the rock dust

GENERAL INFORMATION

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: R645-301-120.

Analysis:

The revised Introduction, Table of Contents for the MRP, and Table of Contents for the Appendices volumes (dated 5/24/2000) are to replace those found in the Introduction section of Volume 1 (dated 12/20/99 and approved under amendment AM00A) . The latest information includes Volumes 8 - 11 in the Table of Contents list. The Division files were checked for accuracy against the Table of Contents. The following has been noted:

- The information listed as existing in Volume 2 is now being presented in two volumes: Volume 2 and the recently submitted volume entitled "Part 4 - Reclamation Plan" (dated 1/17/00, yet to be incorporated). Once Part 4 has been approved, it will be incorporated into Volume 2.

- Volume 4 was not empty; it contains Maps 2-7, 2-10, 2-11, 2-12, and 2-13. According to this submittal, several, but not all, of these maps (2-7, 2-10, and 2-11) should have been moved to Volume 8 in 1993.

- Volume 7 is not included in the Table of Contents. It does not exist in the files either. This could be a source of confusion.

- Volume 9 has been followed by Volumes 9A and Volume 9B. Three volumes in all.

- Appendix XX should have been moved to volume 9, according to this submittal.

- The Appendices are found in three unlabeled volumes:

  Appendix I through X
  Appendix XI through XIX
  Appendix XX and XXII.

The Division still is missing the following plates:

App III, all 9 plates associated with overland tube
App XII, map 3

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-301-121.100 AND R645-301-121.200, The above noted maps (Appendix III all 9 plates associated with the overland tube and Appendix XII map 3) along with a revised Table of Contents listing the contents of Volume 4; listing volume 7 as non-existent; listing Volumes 9A and 9B; and listing the Appendices will be resubmitted.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR Sec. 783., et. al.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.21, 817.200(c); R645-301-411, -301-220.

Analysis:

Soils information for the mine is located as follows:

Old Waste Rock site (UTU 37642)
Appendix VII and Part 4 (Reclamation Plan) Appendix D, page 32.

New Waste Rock site (UTU-65027)
Volume 10 and Part 4 (Reclamation Plan) Appendix D, page 34.

Cottonwood Mine Facilities
Volume 1 Part 2, pages 2-143 to 2-158

Drawing CE 1047 WB General Soil Map of the Cottonwood/Wilberg Mine Permit Area (designated by the Division as Map 2-17)

Drawing CE 10346 - WB Mine Plan Area Soils Map (designated by the Division as Map 2-18).

At present, the reclamation plan describes using the top 18 inches of soil from interim fill slopes which were seeded in 1988 (see Part 4, pages 18 - 21). These slopes are shown in green on Drawing KS1217D,1993 Vegetation Monitoring Map, dated 4/18/94 and on Figure 3 of Appendix D, Soil Physical and Chemical Analysis. Prior to seeding, the soil in the fill slopes was sampled in 1980 and 1983 and the results of that sampling is included in Appendix D.

To be assured of the appropriateness of this plan, it was decided to monitor soil development over time through sampling and laboratory analysis of the fill slopes. The reporting was to be conducted at 5 year intervals (1993, 1998) to record productivity changes on the slopes with the ultimate goal of creating substitute topsoil from the fill. At five year intervals pH, EC. SAR, O<%, SP%, AWC, and soil fertility (P, K) analyses were to have been performed on five composite samples from five fill slopes.

Mr. Charles Semborski of PacifiCorps has indicated that this sampling was not conducted as described, but was being conducted during the 2000 field season. Data will be analyzed as described and interpretations will be included in Part 4 Appendix D. The MRP, Part 4, page 21, item #7 should be changed to reflect the actual date of sampling.

Findings:

Soil testing did not occur as described in Part 4, page 21, item #7. What has actually occurred should be reflected in the MRP. The date of actual soil testing should be indicated on page 21. When soil samples and consultants interpretations from this field season are received, Part 4 Appendix D should be updated. The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-300-143, Indicate the actual dates of soil testing in Part 4, page 21, item #7 and update Appendix D with soil testing analysis and interpretative information when the 2000 field season information is received.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Reclamation backfilling and grading maps

The Division reviewed the approved and proposed reclamation plan and found that neither contains detailed cross sections. Without detailed cross sections the Division is unable to evaluate the reclamation plan. The cross sections are needed to verify that the backfilling and grading plan meets the requirements of the coal rules and the reclamation bond is adequate.

The permittee must give the Division detailed cross sections that show the operational and reclamation phases for all disturbed areas at the Cottonwood mine. The cross sections should be on 100 foot intervals and be at a scale of not smaller than 1 inch equals 100 feet. The Division needs the cross sections for several reasons including but not limited to the following:

- verify that the reclamation plan meets the requirements of the coal rules
- verify that the cut and fill quantities match
- verify that concrete structures left in place will be adequately backfilled

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-301-542.200, the permittee must give the Division cross sections that show the operational and reclamation phases for the disturbed areas. Those cross sections must **(1)** be of a scale of 1" = 100' or smaller, **(2)** be on 100' intervals, **(3)** show the location of all concrete structures that the permittee proposes to leave in place for final reclamation, **(4)** show the location of the highwalls and **(5)** list the cut and fill quantities.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Determination of bond amount

The Division, reviewed the reclamation cost estimate and divided the review into three sections: demolition, earthwork and revegetation.

Demolition

The Division reviewed the demolition cost estimate and made the following analysis:

- The permittee is not clear and concise when describing noncoal waste disposal. On page 1 of part 4 of the MRP and proposed reclamation plan the permittee states that all noncoal waste except concrete will be shipped off-site. In the remarks section of the demolition cost estimates the permittee states that steel will be sent to a salvage facility. In the reclamation cost calculations the permittee includes disposal fees for steel debris sent to the Nielson landfill. The Division does not consider the Nielson landfill to be a salvage facility since they charge a disposal fee. The permittee needs to be consistent when describing the disposal facilities where building debris will be taken.

- A salvage facility implies that the material can be disposed of at no cost. The Division does not consider the Nielson landfill to be a salvage facility since a disposal fee is charged. The permittee must not use the term salvage facility and landfill interchangeably.

- The comments about disposal of building debris on-site must be clarified. Usually the Division only allows inert materials such as concrete to be disposed of on-site. If the permittee wants to dispose of building debris on-site then they must comply with the requirements of R645-301-528.332. That regulation requires the permittee to design and construct the on-site disposal area so that leachate and drainage from the noncoal mine waste does not degrade surface or underground water. If the permittee does not meet those requirements then the debris must be disposed of at a State-approved solid waste disposal area.

- The permittee must include the disposal costs in the reclamation cost estimate for the following structures:

    - Rock dust storage tanks and fuel tanks (1-F)
    - Substation (1-J)
    - Diesel Shop (1-K)
    - Covered Parking (1-L)
    - Staking Tube (1-P)

- Overland Conveyor (1-R)

- The permittee did not include the reclamation costs for the following:

  - Removal of the 69 KV power line (1-H)
  - The activities associated with reclaiming the crane pad (1-O)

- The permittee did not include the volumes for some structure scheduled to be demolished. Those structures include but not limited to the following:

  - All concrete structures that will be left in place during final reclamation.
  - Conveyor systems
  - Rock dust storage tank and buried fuel tanks
  - Power Substation
  - Pumphouse water tank

The Division needs that information on the concrete structures scheduled to be left in place because they may have to be broken up in place to insure proper water flows and root growth.

The Division reviewed the demolition costs provided by the permittee. The permittee did not include the equipment operator's cost (wage rates) in reclamation cost estimates. One possible reason that the permittee did not include the operator's cost with the crew costs is how the term crew cost is defined by *Means*. The wording in *Means* Heavy Construction Cost Data 14th Annual Edition, 2000, can be confusing. On page 5 the crew cost is defined as follows:

- The figures in the column for Crew Equipment Cost represent the rental rate used in determining the daily cost of equipment in a crew. It is calculated by dividing the weekly rate by 5 days and adding the hourly operating cost time 8 hours.

- The word crew may imply the combination of equipment and operator but the crew only consists of the equipment. To clarify this point the following examples will be used. The weekly rental rate for a 55-ton truck mounted hydraulic crane (*Means* reference number 0159 600 2600) is $2,675/week, divided by 1 week/ 5days that is equal to $535/day. The operating cost is $34.15/hr times 8 hrs/day that is equal to $273.20/day. The sum of the daily rental and operating cost is $808.20/day, the same as the crew cost. Note: no operator cost (wage rate) was used in calculating the crew cost.

A second example is found on page 399. Crew No. B-13B (do not confuse equipment crews with activity crews) lists a 55-ton hydraulic crane as part of that activity crew. The bare cost for the hydraulic crane is $808.20/day and the bare cost for the crane operator is an additional $239.20/day. Those costs are consistent with the claim that the operator's cost is not included in the equipment crew cost.

The permittee did not include the operator's costs with equipment cost that the Division supplied from *Blue Book*. The equipment costs in *Blue Book* include the ownership costs (rental), the operating

costs and profit and overhead. The equipment cost does not include the operator's cost (wage rate).

The pemittee did not give the Division references for the productivity of the crews used in the calculation of the demolition work. The Division is unable to verify the productivity rates for the demolition activities. The permittee appears to use a 20-ton/day productivity rate for most steel structures. The published productivity rates that the Division has access to are between 322CY/day and 800 CY/day depending on the crew and equipment. If the permittee cannot provide the productivity references then the Division will use productivity and cost estimates from *Means*.

The permittee must give the Division the pavement dimensions (length, width and thicknesses) for all asphalt surfaces and an asphalt swell factor. This information is needed to verify haulage costs. When calculating the volume of asphalt rubble the permittee should use a swell factor.

On page 4-3 of the MRP the permittee states that all asphalt debris will be disposed of on-site in the lower parking lot. The surface ownership maps show that the U.S.F.S. is the surface owner. The U.S.F.S. has indicated to the Division that asphalt can no longer be disposed of on-site. The permittee needs to show that they have surface owner approval for the on-site asphalt disposal. If they do not have land owner approval for on site disposal of asphalt then the permittee must develop an alternative disposal plan.

The permittee needs to clarify asphalt disposal. On page 4-1 of the MRP the permittee states that all noncoal waste except concrete will be disposed of on-site. That statement implies that asphalt will be disposed off-site. However, on page 4-3 of the MRP the permittee states that asphalt will be disposed of on-site. The permittee needs to be consistent in describing asphalt disposal.

The Division reviewed the earthwork cost estimate and made the following analysis:

Earthwork Calculations

The volumes for the earthwork calculations are shown on the Final Reclamation Map Stage I, drawing number CM-10500-WB dated May 26, 1983 and Final Reclamation Map Stage II. The volume calculations are based on cross sections listen on the map. When the Division contacted the permittee about getting copies of the cross sections, the permittee stated that they have no cross sections for the site. The Division needs cut and fill cross sections for several reasons including verification of cut and fill quantities.

The Division reviewed the equipment productivity calculations. The permittee needs to clarify the following:

- Why the permittee used bank cubic yards instead of loose cubic yards when calculating scrapper productivity. (Why a swell factor was not used when calculating volumes to be hauled.)

- For dozer productivity the permittee should state why they are using a material factor of 0.8, a weight correction factor of 0.9 and a slot dozing factor of 1.2. The slot dozing factor is generally used when the dozer is cutting trenches.

- The permittee must include detailed productivity calculations for the following earthwork:

  - Reclamation of the new waste rock site.
  - Removal of the sediment pond.
  - Drainage works, extending the diversion ditch 230 feet.
  - Culvert removal

- The permittee did not include reclamation costs to prepare the surface for topsoil placement and distribution. Many surfaces have slopes of 1H:1.5V. Such slopes are to steep to for equipment to operate on. Therefore, special material handling techniques must be used. The permittee must include those procedures in the bond calculations.

- The permittee, which must include earthwork calculations for the Proposed Cottonwood Fan Portal. Since Phase I bond release has not been granted the permittee must still include earthwork costs in the reclamation cost estimate.

Vegetation

The Division reviewed the reclamation cost for revegetation. The permittee did not include the material costs or productivity calculations for those tasks. The material costs and productivity calculation must be included in the reclamation cost estimate.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-301-830.140 and R645-301.122, The pemittee must show that they have landowner approval for on-site disposal of all noncoal waste including asphalt. The U.S.F.S. is the surface owner and they have informed the Division that asphalt debris cannot be disposed of on-site. If asphalt debris cannot be disposed of on-site then the permittee must develop an alternative disposal plan.

R645-301-121.200, The permittee must be clear and concise when explaining how and where building debris will be disposed. The permittee must be consistent about whether or not building debris will be disposed of on-site. The permittee must also be consistent about describing the off-site disposal facility. The Division does not consider a salvage facility to be the same as a landfill because a salvage facility does not charge for disposal while a landfill does. See the analysis section for details.

R645-301-830.140, The permittee must include the disposal costs for the following: **(1)** Rock dust storage tanks and fuel tanks (1-F), **(2)** Substation (1-J), **(3)** Diesel Shop (1-K), **(4)** Covered Parking (1-L), **(5)** Staking Tube (1-P) and **(6)** Overland Conveyor (1-R).

R645-301-830.140, The permittee must give the Division detailed reclamation cost estimates for the following: **(1)** Removal of the 69 KV power line (1-H), **(2)** Reclamation of the crane pad (1-O), **(3)** the volume of all concrete structures that will be left in place during final reclamation, **(4)** the volumes for all structures that are to be demolished and an estimate of the debris volume. The Structures that do not have volumes listed include but not limited to the conveyors, the rock dust storage tank and buried fuel tanks, power substation, pumphouse and water tanks

R645-301-830.140, The permittee must include the equipment operator's costs (wage rates) in the demolition costs. See the analysis section for the discussion on why the operator's costs are not included in *Means* crew costs or the quotes given by the Division from *Blue Book.*

R645-301-830.140 and R645-301.122, The permittee must give the Division references for the productivity of the crews used in the calculation of the demolition work.

R645-301-830.140, Provide the Division with pavement dimensions (length, width and thicknesses) and a swell factor for calculating the volume of asphalt rubble.

R645-301-122, The pemittee must be clear and concise when stating where asphalt debris will be disposed. The information on page 4-1 suggests that asphalt debris will be disposed. The information on page 4-1 suggests that asphalt will be disposed of off-site while the information on page 4-3 suggests the material will be disposed of on-site.

R645-301-830.140 and R645-301-542.200, The permittee must give the Division cross sections that show the cut and fill quantities.

R645-301-830.140 and R645-301.122, Provide the following: **(1)** Why the permittee used bank cubic yards instead of loose cubic yards when calculating scrapper productivity. (Why a swell factor was not used when calculating volumes to be hauled.) and **(2)** For dozer productivity the permittee should state why they are using a material factor of 0.8, a weight correction factor of 0.9 and a slot dozing factor of 1.2. The slot dozing factor is generally used when the dozer is cutting a trench.

R645-301-830.140 and R645-301.122, Provide information and productivity data for the following activities: **(1)** Reclamation of the new waste rock site, **(2)** Removal of the sediment pond, **(3)** Drainage work, extending the diversion ditch 230 feet, **(4)** Culvert removal, **(5)** The permittee did not include reclamation costs preparing the surface for topsoil placement and for topsoil distribution and **(6)** The permittee

must include earthwork calculations for the Proposed Cottonwood Fan Portal. The Division has not yet approved Phase I bond release therefore the earthwork calculations must be included.

R645-301-830.140, Provide references for material costs involved in vegetation and productivity calculations.

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RULES INDEX